5   a non-realtime encoder <u>coupled to the non-realtime content source and</u>

6   <u>configured to encode</u> [for encoding] the non-realtime content into encoded non-realtime

7   content;

8   a realtime content source [for providing] <u>configured to provide</u> realtime [video

9   and audio] content;

10   a realtime encoder <u>coupled to the realtime content source and configured to</u>

11 <u>encode</u> [for encoding] the realtime [video and audio] content into encoded realtime <u>content</u>

12 [video and audio];

13   a remultiplexer <u>operatively coupled to the non-realtime encoder and the realtime</u>

14 <u>encoder and configured to repacketize</u> [for repacketizing] the encoded non-realtime content

15 and the encoded realtime <u>content</u> [video and audio] into transport packets <u>suitable for</u>

16 <u>transmission in a transport stream</u>; and

17   a re-timestamp unit coupled to the remultiplexer [for providing] <u>and configured</u>

18 <u>to provide</u> timestamps to be applied to the transport packets in order to synchronize the

19 realtime and non-realtime <u>contents</u> [content therein].

1   2. (Amended) The apparatus of claim 1, where the apparatus is <u>located</u> within

2   a head-end of a cable distribution system.

1   3. (Amended) The apparatus of claim 1, further comprising:

2   a [common] clock unit [for providing] <u>configured to provide</u> a [common]

3   clock signal to the <u>re-timestamp unit and to generate</u> [re-timestamping unit and for

4   generating] a clock stream to be transmitted along with the transport stream to [set-top] <u>a</u>

5   <u>plurality of</u> terminals.

1   4. (Amended) The apparatus of claim 1, further comprising:

2   a rate control unit [for determining] <u>configured to determine</u> an encoding rate

3   for the non-realtime content and [for providing] <u>to provide</u> the <u>determined</u> encoding rate for

4   the non-realtime content to the non-realtime encoder.

5. (Amended) The apparatus of claim 4, where [the rate control unit predetermines said] encoding rate for the non-realtime content is determined based at least in part on [according to] an output rate of [a final] the transport stream [which includes both the realtime and non-realtime content].

6. (Amended) The apparatus of claim 4, where the rate control unit [predetermines] determines an encoding rate for the realtime content based at least in part on [according to] an output rate of [a final] the transport stream [which includes both the realtime and non-realtime content].

7. (New) The apparatus of claim 1, wherein the realtime content includes video and audio contents.

8. (New) The apparatus of claim 1, wherein the non-realtime content includes guide data.

9. (New) The apparatus of claim 7, wherein the realtime encoder includes
a video encoder configured to encode the realtime video content, and
an audio encoder configured to encode the realtime audio content.

10. (New) The apparatus of claim 5, wherein the encoding rate for the non-realtime content is further determined based on a maximum bit rate anticipated for the encoded realtime content.

11. (New) The apparatus of claim 1, wherein the timestamps provided by the re-timestamp unit replace timestamps generated by the realtime and non-realtime encoders.

12. (New) The apparatus of claim 1, further comprising:

2   a slice combiner coupled to the realtime and non-realtime encoders and the

3   remultiplexer, the slice combiner configured to combine slices of encoded realtime content

4   with slices of encoded non-realtime content.

1   13. (New) The apparatus of claim 1, wherein realtime and non-realtime

2   contents intended to be displayed in a single frame are re-timestamped by the re-timestamp

3   unit such that the contents are decoded and presented in the same frame.

1   14. (New) A method for encoding realtime and non-realtime contents,

2   comprising:

3   encoding realtime content to generate encoded realtime content;

4   encoding non-realtime content to generate encoded non-realtime content;

5   repacketizing the encoded realtime content and the encoded non-realtime

6   content into transport packets suitable for transmission in a transport stream; and

7   re-timestamping the transport packets with new timestamps in order to

8   synchronize the realtime and non-realtime contents.

1   15. (New) The method of claim 14, further comprising:

2   generating the new timestamps based on a common clock signal.

1   16. (New) The method of claim 14, further comprising:

2   controlling a bit rate for the encoded non-realtime content based in part on a bit

3   rate for the transport stream.

1   17. (New) The method of claim 16, wherein the bit rate for the encoded non-

2   realtime content is further based on a maximum bit rate anticipated for the encoded realtime

3   content.

1   18. (New) The method of claim 16, further comprising:

2 allocating the bit rate for the encoded non-realtime content among a plurality of
3 pages of non-realtime content.

1   19. (New) The method of claim 14, further comprising:
2   combining slices of encoded realtime content with slices of encoded non-
3 realtime content, and
4   wherein the repacketizing is based on the combined slices of encoded realtime
5 and non-realtime contents.

1   20. (New) A terminal configured to provide a user interface having includes
2 therein realtime and non-realtime contents, comprising:
3   a demodulator operative to receive and demodulate a modulated signal to
4 provide a transport stream;
5   a transport de-multiplexer coupled to the demodulator and operative to receive
6 and process the transport stream to provide a sequence of transport packets re-timestamped to
7 synchronize encoded realtime content and encoded non-realtime content included therein; and
8   at least one video decoder coupled to the transport de-multiplexer and operative
9 to receive and decode the encoded realtime and non-realtime contents to recover the realtime
10 and non-realtime contents for the user interface.